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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIANNI, KAVEH C

ART UNIT PAPER NUMBER

2883

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/534,438

Applicant(s)

MORIKAWA ET AL.

Examiner

Kianni C. Kaveh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.



DETAILED ACTION

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-16 are, drawn to a laser module including the adhesive layer is provided partially at least at two positions, close to an incident end face of the optical waveguide device and close to an outgoing end face of the optical waveguide device classified in class 385, subclass 88.
- II. Claims 17-20, drawn to a method for manufacturing a laser module including securing the sub-mount to a package and pouring an adhesive into a gap between an outgoing end face of the optical waveguide device and the sub-mount, classified in class 385, subclass 92.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made without securing the sub-mount to a package and using injection of adhesive device rather the step(s) involved in pouring of the adhesive as claimed in invention II.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Mueller on 10/24/06 a provisional election was made with traverse to prosecute the invention of I, claims 1-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17-20 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

Figure 13 should be designated by a legend such as --prior Art- because only that which is old is illustrated. See MPEP j 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-8 and 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Appropriate correction is required. Claim 7 recites the limitation 'a third groove' while there is no mention of second groove in the relevant base claim that makes the claim indefinite. Claim 9 recites the limitation 'a fourth groove' while there is no mention of 'a third groove in the relevant base claim that makes the claim indefinite. Claims 8 and 9-0 may be allowable once appropriate corrections are made.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of

each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US 6371664).

Regarding claims 1, Takahashi teaches a laser module (shown in at least fig. 14), comprising: a substrate 1; a semiconductor laser 7 secured to a surface of the substrate 1; and an optical waveguide device 3 joined to the surface of the substrate 1 by an adhesive layer 40 so that the optical waveguide device is coupled optically with the semiconductor laser 7, wherein a first groove is formed at the surface of the substrate 1 at a region corresponding to an incident end side of the optical waveguide device 3, the first groove 35 being formed parallel to an outgoing end face of the semiconductor laser 7 with a predetermined space therefrom, and the adhesive layer 40 is formed so that an end of the adhesive layer on the incident end side of the optical waveguide device is positioned within a range from a position abutting with a distal edge of the first groove distant from the semiconductor laser 7 to an inside of the first groove and does not contact with the outgoing end face of the semiconductor laser (see at least fig. 14-15, item adhesive and col. 13, lines 54-59).

However, Takahashi does not explicitly teach wherein the above substrate is a sub-mount and that wherein a length L of the optical waveguide device satisfies $L > 10$ mm and wherein the optical waveguide device is a quasi-phase-matched second

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harmonic generation (QPM-SHG) device. It is obvious/well-known to those of ordinary skill in the art when the invention was made that a substrate for mounting/supporting item modules is known as a sub-mount and that although Takahashi states that various segments of the module is in several 100 microns, but considering the size of the module as shown in at least fig. 4, would approximately in about 10 mm or larger nevertheless, it is obviously it is more challenging to have a smaller in size module than a larger one, use a conventional QPM-SHG (such as that the one admitted by applicant as prior art shown in fig. 13 of the specification and/or drawing) and since such size and support item would provide information processing apparatuses and light sources for optical communication (col. 1, lines 17-20) and that a change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Takahashi further teaches wherein a distance D between the outgoing end face of the semiconductor laser and a proximal end of the adhesive layer satisfies $0 \text{ mm} < D < 0.2 \text{ mm}$ (see at least col. 8, 4th parag. and fig. 8, wherein the size between the laser and the groove/adhesive is microns); wherein the adhesive layer is provided partially at one position close to an incident end face of the optical waveguide device (shown in at least fig. 8); wherein the adhesive layer is provided partially at least at two positions, close to an incident end face of the optical waveguide device and close to an outgoing end face of the optical waveguide device (see at least fig. 7); wherein a second groove is formed at the surface of the substrate at a region corresponding to an outgoing end side of the optical waveguide device, the second groove being formed parallel to the

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outgoing end face of the optical waveguide device, and the adhesive layer close to the outgoing end face is provided along the second groove (see at least fig. 18, item 2 as a first groove and item 60 as a second groove, both are considered as parallel to the outgoing end face of the optical waveguide device 3 and see col. 18, lines 37-41 and col. 20, lines 28-37); wherein an area of the adhesive layer close to the incident end face is larger than an area of the adhesive layer close to the outgoing end face (shown in at least fig. 14); wherein a third groove is formed at the surface of the substrate at a region corresponding to the incident end side of the optical waveguide device, the third groove being formed parallel to the first groove and being positioned between the first groove and the outgoing end face of the optical waveguide device (see at least fig. 18, item 2 as a first groove and item 60 as a third/second groove, both are considered as parallel to the outgoing end face of the optical waveguide device 3 and see col. 18, lines 37-41 and col. 20, lines 28-37); wherein a thickness $T1$ of the optical waveguide device satisfies $T1 < 1$ mm (wherein the fiber/waveguide is in microns); wherein a width W of the optical waveguide device satisfies $W < 0.85$ mm (wherein the fiber/waveguide is in microns); wherein a thickness $T2$ of the substrate satisfies $T2 < 0.3$ mm (in fig. 1, see the diameter of the fiber 3 and thickness of the substrate 1 and see col. 12, 4th parag. being less than .15 mm); wherein the optical waveguide device is an optical fiber 3.

Citation of Relevant Prior Art

Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

US 6141471 A	Agatsuma; Hiroyuki
US 5007700 A	Albares; Donald J.
JP 2000098192 A	NAKANISHI, HIROMI et al.
US 6257772 B1	Nakanishi; Hiromi et al.
JP 63163805 A	TOKURA, NOBUYUKI et al.

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kianni C. Kaveh whose telephone number is 571-272-2417. The examiner can normally be reached on 9:30-19:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



K. Cyrus Kianni
Primary Patent Examiner
Group Art Unit 2883

December 4, 2006
